The Planters' Chronicle.

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THE U. P. A. S. I.

(INCORPORATED.)

Contents.

We publish the Proceedings of the Central Travancore Planters' Association, the most salient feature of which, from a general point of view, is the Resolution passed supporting the proposed Labour Commission; and Mr. Dandison writes a letter of interest on the same question, which throws some further light on the subject, as regards local labour, and how tempted by large advances, local Badegas have become migratory. The short foot-note at the end of his letter, extracted from "Capital" has frequently been the text of speakers at the Annual Meetings of the Association. The invidious distinction hitherto shown by the Madras Government in favour of overseas recruiters, must be broken down; but can only be so broken down by the Southern Indian Planters' themselves.

The *Planters' Chronicle* has been a consistent advocate of the use of Explosives in Agriculture, especially in opening up new land, so we make no excuse for extracting and reproducing a very interesting article on the subject by Mr. F. R. Treleavan in the *Queensland Agricultural Journal*, which, coming from one who has studied the subject and experimented for eleven years, carries conviction that its use is most advantageous, and its results most fruitful.

That Standardization of Rubber is occupying the minds of leading men is known to all, and we reproduce Doctor Lyne's Scheme of how to meet the requirements of the present day. Lord Grey's remarks on the value of co-operation are worthy of careful perusal. Uniformity must be the watch-word of all Rubber Planters.

To be successful now-a days in agriculture, the help and the advice of the Agricultural Chemist is absolutely necessary. Agriculture is a progressive science, and to combat pests and diseases, and to secure the utmost fertility of the soil, the aid of the scientist is daily called in, to assist and develop it with the happiest results, and the more the contact between the planter and the scientist can be encouraged, the more will that contact be appreciated by the practical planter. An article we reproduce on the subject will be read with interest.

DISTRICT PLANTERS' ASSOCIATIONS.

Central Travancore Planters' Association.

Minutes of the third Quarterly Meeting of this Association held at Carady Goody Bungalow, on Saturday, 25th October, 1913, at 10 a.m.

PRESENT.—Messrs. F. Bissett (Chairman), W. H. G. Leahy, H. C. Westaway, J. H. Ellis, J. S. Wilkie, F. W. Winterbotham, R. D. Scoble Hodgins, T. C. Forbes (*by his Proxy*), J. S. Wilkie, and R. P. Roissier (Honorary Secretary).

The Notice calling the meeting was read.

The proceedings of the last Meeting were confirmed.

The Chairman, before starting on the business of the day, said that he wished to extend a hearty welcome to Mr. Leahy and said how pleased we are to have him amongst us again. (Applause) Mr. Leahy thanked the Chairman and the Members for their kind welcome.

Correspondence.—Read U. P. A. S. I. Circulars Nos. 18/13, 17/13, 13/13, 14/13, 16/13, 15/13. Read letter from the President, Fourth International Rubber Exhibition. It was resolved that Mr. Bissett represent this Association at the Conference. Mr. Bissett accepted and thanked the Members for electing him as their Delegate. Read letter from the Excise Commissioner No. 15462 of 26th July. Read letters from the Honorary Secretary, Kanan Devan Planters' Association of 31st July and 12th August. Read letter from the Excise Commissioner No. 312 of 25th August. Resolved that the Honorary Secretary do write again to the Excise Commissioner on the Subject of Import Duties. Read letter from the Honorary Secretary Mundakayam Planters' Association of 30th August. Read letter from Honorary Secretary, West Coast Planters' Association of 18th August and of 7th October. Read letter from Messrs. Aspinwall & Co., Ltd., of 11th August. Read letter from Messrs. Harrisons & Crosfield Ltd. of 11th August. Read letter from the Resident of Travancore and Cochin of 21st September. Read circular letter from U. P. A. S. I. of 21st August. Read letters on the subject of the proposed Labour Commission from Acting Manager in India, Travancore Tea Estates Co., Ltd., Superintendent, Arnakal Estate, Superintendent, Cheenthalaar Estate, Superintendent, Pullikanam Estate, Superintendent, Carady Goody Estate, Superintendent, Glenmary Estate, Superintendent, Stagbrook and Mai Mallay Estates, Superintendent, Ashley Estate, General Manager, Wallardie Tea Company. Read letter from Superintendent, Devicolam Division of 23rd September. Read letter from R. D. Anstead, Esq., Planting Expert, *re* proposed Tour in Peermade. The programme for Mr. Anstead's Tour was then arranged.

Report of the Bangalore Delegates.—Mr. Chairman and Gentlemen,—Mr. Wilkie and I attended the U. P. A. S. I. Annual Meeting as your Delegates. The Meeting was held at the Mayo Hall, Bangalore, starting on Monday 25th and ending on Friday 29th August. You have all by now read, in the *Chronicle*, the Secretary's Report and the Chairman's address. I would like to draw your attention to this most interesting address and especially to the remarks dealing with the Planters' Benevolent Fund and the Labour Question. As regards this point I shall have more to say later on. I should also like to draw your attention to the Scientific Officer's Report. I hope that you will all purchase the Annual Book of Proceedings.

Weights and Measures.—The Delegate for the Kanan Devan Planters' Association proposed a resolution which was carried unanimously. The Resolution was:—"That this Association confirms its resolution of last year and again approaches the Government of India in hopes that the Standardisation of weights may speedily become law." You will remember that this was brought up in 1910 and 1911 and we hope now that this will be the last time that it will be necessary to bring this before Government.

Roads and Communications.—The Kanan Devan Planters' Association delegate brought before the meeting our old friend the Theni Bridge. He properly pointed out that the planters as a body are largely instrumental in opening out large tracts of country which would otherwise remain Jungle and thus creating sources of revenue and that in the case of this Bridge they had been most unsympathetically dealt with. He pointed out also that the road on the Kodaikanal side and other routes most frequented by Missionaries and Government servants were maintained in good state, whilst the roads on the Peermade side were never or only inadequately repaired. Mr. Hughes proposed a resolution drawing the attention of the Government of Madras to the continued delay and waste of money on the construction of the Theni Bridge and to the bad state of the roads and that the Madura District Board be given orders to speedily complete the bridge and maintain the roads in really good order. This resolution I seconded and it was carried unanimously.

European Defence Association.—This you have all read about and also those of you who have joined this Association will have received the copy of the proposed new rules and also the proposed change of name. I can only ask those who have not as yet joined to do so without further delay as it is an Association to which all Europeans in India should be members.

London School of Tropical Medicine.—There is an endowment fund for the purpose of the School of Tropical Medicine and a resolution was put forward proposing that the U. P. A. S. I. give £20 to the fund and also ask other Associations to support financially towads the £10,000 required. This resolution was carried. Eleven voted and the remainder did not vote.

Labour.—There were two schemes to be brought up at the meeting for the Registration of coolies but these were withdrawn as these would not be necessary with a Labour Commission. You have all received the Report of the Labour Committee. There were three proposals for the Committee to discuss and these were put before the Delegates at the Meeting. They are:—Abolition of the Professional Recruiter, Establishment of a Labour Commission, Consideration of the question of advances or premiums paid to secure the coolie's services.

Taking the first proposal the meeting was quite agreed on this point and the Professional Recruiter was defined as "an individual who receives so much per head for coolies delivered after which he ceases to have any further interest in them or their future interest or whereabouts as distinguished from the authorised Kangany or maistry."

As regards the Labour Commission, a Committee was formed to go fully into the matter of establishing a Labour Commission and to draw up an estimate and report. From the report which you all have, you will understand exactly what is required and what is proposed to be carried out. It was unanimously agreed that we should have a Labour Commission and Delegates were to bring this matter before their Associations to obtain their

views and to ascertain the acreage that would be joining the Scheme so that at an extraordinary general meeting of the U. P. A. S. I. to be held about the end of November the scheme could be sanctioned and arrangements made to start the Commission right away. I think that we members of this Association firmly believe that we must have a Labour Commission. Of the advantages to be obtained I have only to refer you to the Report but without that report I think that we all realise the advantages of a Commission. To many Rs.2 per acre may seem high. At the same time those of us who have Labour Agents will not I think consider that this estimate is out of the way. This amount would not be called up all at once but only as it is required. Again after this Rs.2 would only be to start the scheme and even if it did remain somewhere near about Rs.2 I think that the benefits which would be derived from this Labour Commission would amply repay us. You cannot start any scheme without at first having to put your hands in your pockets and if we planters of South India are to have a Labour Commission then I say we must have one started on a sound basis and also a Commission so run that our neighbours across the water will realise that our Commission is as good as theirs and one to be respected and this we are not going to do, if from the very start we are going to think of cutting down expenses. As I said the estimate is for Rs.2 per acre and I think that we should agree to that. I hope that those Estates in this Association and also those outside the Association who have not already signified their intention of joining the Labour Commission will do so before very long.

Scientific Officer.—It was decided that the services of the Scientific Officer be carried on for another period and it was also considered that in addition to the Scientific Officer, the U. P. A. S. I. should have the services of a Mycologist and the Planting Member was asked to try and press this forward.

Fertilisers and Guarantees.—It has been proved that a tremendous percentage of insoluble matter has from time to time been sent out with Fish Manure supplied to planters. One sample analysed by Mr. Anstead contained as much as 34·04 per cent. of insoluble matter. Mr. Congreve brought up a resolution which was carried asking that the U. P. A. S. I. approach suppliers of Fish Manure and ask them to guarantee in future that the insoluble matter shall not exceed 5 per cent. and that the members of the U. P. A. S. I. give preference to Firms who give this guarantee. At the same time it was pointed out that there should be no appreciable increase in cost.

Railway Freights on Tea Seed.—A resolution was passed asking the U. P. A. S. I. to approach the Indian Tea Association asking them to use their influence to obtain concessions in rates of Freight on Tea seed from all Railways in India.

Finance.—As you are aware, we are paying subscription to the U. P. A. S. I. at the rate of 2 annas per acre and you instructed us to ask that all Associations pay on this basis. Mr. Wilkie brought this up and during the discussion on the subject of subscriptions, the Chairman said that he hoped all Associations would come in on this basis and said that, when those Associations not at present paying the 2 anna cess could afford to come in on that basis, they would do so. All Associations are now in this basis with the exception of two.

In conclusion, Gentlemen, I wish to thank you for the honour you did us in electing us as your Delegates.

Mr. Leahy proposed a vote of thanks to our Delegates and to Mr. Roissier for his interesting Report. Seconded by Mr. Ellis and carried with applause.

Labour Commission.—The following Resolution was proposed by Mr. Westaway: "That the majority of the members of this Association approve of the proposed Labour Commission and will support it. The support of 4,138 acres being promised." Seconded by Mr. Roissier.—Carried.

Sessions Judge, Kottayam.—The Chairman drew the attention of the members to the recent judgment given by the Sessions Judge of Kottayam and published in the papers under the heading of "Slavery in the Travancore Highlands" and said that he thought that notice should be taken of this judgment. After much discussion on the subject the following resolution was proposed by Mr. Westaway: "That this Association would like to draw the attention of the Travancore Government to the uncalled for remarks made by the Sessions Judge, Kottayam, in his judgment in the so-called Slavery Case in the Travancore Highlands, as no such state of affairs exists except in his imagination, and we would welcome the appointment of an independent commission of enquiry by Government to prove that the accusations are absolutely unfounded. Copies of this resolution to be forwarded to the British Resident, the Dewan of Travancore, the Planting Member of Council, and the Sessions Judge, Kottayam."

Seconded by Mr. Winterbotham and carried unanimously.

Resolution by Mr. Leahy.—"That Government be asked to convert the present Travellers' Bungalow in Peermade into a first class Travellers' Bungalow." Seconded by Mr. Ellis and carried unanimously

With a vote of thanks to the Chair, the Meeting terminated.

(Signed) REGINALD P. ROISSIER.

Honorary Secretary.

An Electric Rubber Tapper.

A novel electrical tapper for rubber trees is the work of a German in Peru. Hollow iron channels, divided into sections, are fitted on the tree trunk, the sections containing pricking devices that can be worked at varying times by current from the central station. A receptacle in each section catches the latex, coagulating it with acid. The attachment may be left unvisited two or three months, and in the time 200 or 300 lumps of rubber may be accumulated from a large tree.—*The Queensland Agricultural Journal.*

Colombia's Export Tax on Rubber.

The Board of Trade are in receipt, through the Foreign Office, of information to the effect that an export tax at the rate of 7 per cent. ad valorem has been placed on rubber exported from the Republic of Colombia.—*The India-Rubber Journal.*

CORRESPONDENCE.

Terramia Estate,
Kallakamby, P. O., 3/11/13.

THE EDITOR,
The Planters' Chronicle,

Sir,—Would Mr. Mead regard the subscription to the proposed Labour Commission as a Labour Insurance Premium?

He writes that he personally believes that a district such as his will never be short of labour; well a few years ago many planters said the same of our district, the Nilgiris, on account of local Badegas, but we *are* feeling the shortage now as some of our "Locals" are going further afield, bribed by large advances and as things are at present there seems very little chance of improvement, rather the reverse, so might not Mr. Mead's labour be tempted also and might he not have to increase advances, or pay, or both to keep them?

Even if the Labour Commission costs us an *outside* figure of Rs.4 per acre, it only means 5 annas per month extra per coolie at one coolie per acre, and we have had to face a larger rise than that *more than once* recently.

On the average Tea production in South India it is (at Rs. 4 per acre) *under one cent per lb. of made Tea and one could easily make that up if* you got back the same picking and pruning coolies year after year and if we can regain for our maistries and kanganies but half of the authority they have lost by ill-regulated competition during the last few years.

Well supported, the Labour Commission would cost less than the equivalent of a one anna per month rise in wages, a very small premium to pay if it saves us raising advances or rates, and surely the safeguarding of advances is almost worth the premium asked.

I personally think that if it was put as a *Labour Insurance* scheme, it would appeal to most proprietors and shareholders; any how its a good enough gamble (?) for.

Yours faithfully,
A. S. DANDISON.

We are very strongly of opinion that the South Indian Planters should have a prescriptive right to the labour on the [redacted] coast; and exclusive right is a somewhat different matter. We cannot pretend to speak for the South Indian planters;—if we may judge from the *Times of Ceylon*, they are not always reasonable in their demands—but all the Eastern Bengal planters want is a fair field and no favour and an absolutely impartial and indifferent action on the part of the Government. This is not the case at present. Every facility is given to recruiters for the Colonies, every possible obstacle is placed in the way of recruitment for Assam. Whether the Madras Government adopts a similar attitude in favour of Ceylon and the Straits to the detriment of the South Indian Planter, we cannot say, but we should not be very surprised if we heard that they do.—*Capital.*

AGRICULTURE.

Explosives in Agriculture.

We take from the *Queensland Agricultural Journal* one of two articles that have appeared lately on the subject of Explosives in Agriculture, which should prove of interest and of aid to those contemplating the use of explosives in opening up new land, and the information comes with added force as imparted by one who has tried it over an extended period of years. We are given to understand that experiments will be undertaken by the Scientific Assistant in Mysore, and we trust that the results of those Experiments will be sent to us for publication.

By F. R. Treleaven, New Farm, Brisbane.

From a thorough study of the above and experiments carried out covering a period of the past eleven years, I have formed the decided opinion that explosives have come to stay, and play a most important part throughout the agricultural world—a fact which the farmers of Queensland should not overlook; the aim being to combine efficiency with economy in bringing explosives into use in land-clearing, and thereby making a saving of from 40 to 50 per cent. as against hand labour, and it has been proved in many cases that a saving of from 100 to 200 per cent. has been accomplished. The efficiency of explosives on the land I have thoroughly tested, and successfully demonstrated as to their value on sub-soiling (a most important part) the splitting of logs for burning and fencing purposes, the cutting through of logs for rolling together to burn, the cutting of water ways, and the draining of land in lettu; through surface water where practicable.

The first consideration for the farmer is the removal of standing timber and stumps, so that the plough may be brought into use and enable him to get returns as expeditiously as possible at the least cost; and this can be accomplished with the aid of explosives, thus saving a great deal of hard labour.

Kinds of Explosives.

There are different kinds of explosives that are brought into prominence in land-clearing, all of which have their merits more or less; and I may say that I have demonstrated practically with all of them, and it rests with the user to decide which particular ones he should make a careful study of, that he may get the best results at the least cost. For myself, I use both nitro-glycerine and chlorate compounds. It all depends on the nature of the timber and soil; if wet or dry, and by combining both with careful study and results obtained, one gets very near the mark, but to judge to a plug or two in heavy shooting is out of the question-experience teaches. The tools I use consists of a 1 inch steel bar drill, chisel-pointed at one end and diamond-pointed at the other, a draining spade, and a wooden rammer for tamping with earth. If blasting with gelatine or gelignite, I use water tamping-that is, if it is near at hand and the ground will hold it, which it will do sufficiently long enough if the timber is green, but should the timber be dry the water tamping gets away more rapidly should the soil be of a soft nature.

In stumping with gelignite or blasting gelatine, take, for instance, a stump 4 feet in diameter. It may be necessary to make from three to four or six holes under the main roots—that is, to make a clean job of it—and distribute the charges according to size of roots. Should the stumps have a tap root, there is no necessity to bore into it with an auger, that the root

may be broken off, as it can be cut off with the explosive, thus saving labour. The experience I have gained in stumping with explosives enables me to see where the charges should be placed under the stump, and to get at this I use the draining spade and small bar. The holes may be from 4 in. to 6 in. in diameter, so that you can see where a charge is going to; whereas, by the method of boring under stumps with the auger, one is working in the dark; and another disadvantage is, the explosives placed in the auger-hole do not get the opportunity of doing their work effectually.

STUMPING WITH KACKAROCK.

This may be effectually carried out with one hole only, with the charge placed under the centre, this being the main point. The rending power of chlorate explosives is far greater in heavy shooting than that of nitro-glycerine explosives, for the reason that chlorate explosives retain their energy for a longer period.

METHODS OF FIRING.

There are two methods of exploding charges; First with a safety fuse; and the other by electricity. The first may be adopted where only one shot is necessary; but where more charges are required, and these distributed under a stump and fired simultaneously, the electric fuses and battery are used. This method of firing causes no misfires, providing the connections are perfect.

SAFETY FUSE.

A good fuse should be reliable. It may be set down at as burning at the rate of 2 ft. a minute, which allows the operator to retire to a safe distance. In preparing the charge, tie the plugs together. Take the detonator and shake all sawdust out of it, for if this is not done a misfire might occur, and even if this does not happen there is a possibility of the sawdust smouldering, in consequence of which there may probably be an accident. In inserting the fuse into the detonator, cut the fuse straight across; and in starting on a new coil, cut a few inches off before use. In crimping the detonator on the fuse, use proper pliers designed for the purpose. When firing in water, make the cap water-tight by smearing brown soap or fat around the neck of the cap. When inserting the fuse into the detonator, do so carefully; likewise when fixing the detonator into the primer, and don't press home on the fuse. Hold the top of the cap, and tie it firmly into the primer; otherwise it may come adrift in the tamping. Don't turn the fuse along the side of the charge, as it may or may not cause the charge to start burning. The length of fuse required may be cut off after the tamping is completed. Use a piece of stick in making a hole in the primer to receive the detonator. In handling explosives, treat them as such, and go about the work quietly, remembering that the best results are obtained by sound judgment.

FIRING BY ELECTRICITY.

Those who intend to work with explosives should procure an electric outfit, as it renders the work practically safe as far as it is possible to do so. The outfit is the following:—

A magneto exploder;
Electric fuses (low tension);
Insulated cable; and
Connecting wire.

BLASTING TREES.

In blasting trees, do so, if possible, on a windy day, trusting to the wind to drag out some of the roots, thereby saving explosives. To clear country

economically, make good use of fires if the tree is dead, and should it not fall, a fire will bring it down before morning, and some trees usually burn well standing. The same applies to stumps. Don't shoot them right out of the ground, but just give them sufficient to lift them, say, 18 in. to 2 ft., splitting them in halves or quarters. Then the fire will do the rest, and save a lot of snigging, which would be necessary if stumps were blown all over the place. Explosives cost money, but used as they should be used, they save money and time and bring quick returns from the land.

LOG SPLITTING AND CUTTING OFF.

The only tool necessary is a 1¼ in. auger for logs up to 4 ft. in diameter, using gelignite or blasting gelatine. Holes from 8 to 12 ft. apart are bored on the centre from the top of the log. This refers to clean running timber, giving each hole two plugs. Should the timber be hard and curly, use a 2½ in. auger, and bore to a depth just beyond the centre of the log, so that the charge, when placed, will be in the exact centre of the log. This auger-hole will take five plugs of 1 in. gelignite, side by side, which is sufficient to cut the log through; and the lengths so cut off may be rolled together for burning. A complete outfit of augers for the above work would be—one each of 1¼ in., 1½ in., 2½ in., using your own judgment, according to size of timber, as to which auger to cut off with. The cutting off can be done with ordinary fuse. For splitting use the battery on the line of holes along the log.

SUBSOILING.

This is a most important part that explosives play for the benefit of the farmer. The cost is a mere bagatelle in view of increased crops. Subsoiling should not be attempted when the ground is wet—take the dry weather for it. In damp ground and in certain soils, the explosive tends to harden and pug the soil where the explosive has spent its energy on the outside limit; whereas in dry ground the force of the blast runs out a greater distance, and loosens up on a nice even basis. The depth of the holes varies from 2 ft. 6 in. to 1½ ft., according to "the nature of the soil". This also applies to the distance the shots should be apart, which may vary from 7 to 18 ft., and the quantity of explosive used may be from a half to two plugs, say, of gelignite. A farmer, in subsoiling, should take the class of explosive he intends to use, make two or three trial shots, and then use the crowbar adjacent to the explosion, which will give him a good idea of the distance to which the charge has penetrated. Don't expect to see a great upheaval of the soil. This is not what is required. The ground should have the appearance of having been on the boil, and thus settled and shaken up. This is what is required; so study the subsoil, which is the home of the roots and source of plant food. Farmers should not get the idea that their farms are impoverished through years of cropping, for they have only scratched the surface soil by ploughing. Country that has been under crop for twenty years can practically be restored to its virgin state with the aid of explosives; so do not dispose of the farm with the idea that you have taken all the good out of the land. It is far from it. Subsoiling means:

The utilising of the fertilising elements of the subsoil;
Storage of rainfall;
Good drainage;
Atmospheric influences penetrate the subsoil;
The roots obtain their nourishment from it;
Destruction of field mice, &c.;
Advantage of getting sooner on to the land for cultivation; and
Bountiful crops.

CO-OPERATIVE RUBBER FACTORIES.

How to Standardise Plantation Rubber.

Dr. Lyne Expounds His Scheme.

Interviewed on the subject of the standardisation of plantation rubber Mr. R. N. Lyne, Director of Agriculture, in the *Times of Ceylon* of the 29th ultimo, advocated the application of a system of co-operation and suggested the establishment of central factories in which coagulated latex could be creped in one uniform quality. In view of those remarks the following article from the pen of Mr. Lyne, which will appear in the forthcoming issue of the *Tropical Agriculturist*, will be found interesting:—

The Standardization of Plantation Rubber.

The depression in the plantation rubber market has given rise to a serious situation notwithstanding the fact that there would seem to be grounds for believing that the great disparity between Plantation and Para is to some extent at least artificial. The wild Landolphia rubber of East Africa is collected as scrap by natives, who work in the forests without any supervision. It is rolled into balls or 'sausage' and in the process of rolling collects bark, sand and other impurities, which, however, are not washed out. The writer on one occasion picked at random out of a merchant's godown a sample of sausage, such as is now being quoted at a premium of a penny or two pence over our best plantation sheet, and by merely soaking it in a tub

Reduced Its Weight by 14 per cent.

through loss of sand. It is impossible to believe that our clean biscuit and sheet can for long occupy a place of inferiority to this impure forest product. This Landolphia rubber industry of the East coast is in the hands of Indian traders, who purchase the rubber from native collectors whom they have previously financed. Some of their profit is derived from goods provided to the collector, who does not take out all his emoluments in cash but keeps up a running account. The price at which traders purchase varies according to the wages prevailing in the particular locality. It may be a rupee a pound or one rupee and a quarter or a half. The practice in one place which the writer can recall was to place pice (copper coin) in the scale against rubber; a rupee's worth of copper coin weighing a pound. The rubber is seldom, or one may say never, dry when brought in, so that the trader must always allow for loss; sometimes indeed it is soaking wet. It is safe to assert that the best grades of East African Landolphia—Mozambique sausage and Lamu ball—cannot be placed f.o.b. under Rs.2 a lb. Ceara Scrap, the produce of the German East African plantation, costs about the same amount. This class of rubber has

Suffered a Decline of Only 6d.

from the corresponding period of last year and Landolphia a decline of 1/1 to 1/4; plantation sheet having in the same period dropped 1/11¼ to 2/2½. Neither Landolphia, as we have indicated, nor yet Ceara can compare in cleanliness with Plantation, but they are both now priced higher. In one respect they surpass Plantation—the quality does not vary. Mozambique sausage, whether from Inhambane or Beira, is always constant in quality and the same may be said of Lamu ball, whether from British or German East Africa. Rubber can be produced in Ceylon cheaper than in any other country in the world, so that we may take it that unpleasant as the present condition of things is, the industry in this country is not at the present

moment threatened with disaster. But at the same time the situation is one that demands serious thought and if it leads on to improved methods it will not have come in vain. One thing seems necessary and that is to give Plantation that one quality which it now, alone of all rubbers in the world, lacks, namely,

UNIFORMITY.

The precise steps required to accomplish are now being studied by the Department of Agriculture, but the scheme of research will need to be well supported if it is to bear good fruit, and this brings us to the consideration of a second step that would seem no less called for, that is to say, co-operation. At the Ninth Congress of the International Co-operative Alliance held in Glasgow on August 25th, there were 600 delegates representing over 20,000,000 members of 130,000 societies. Lord Grey delivered the Presidential address and in the course of it said :—"What is the nature of the benefit which the application of the co-operative principle to our industrial system claims to offer to the people? The application of the co-operative principle to our industrial life has proved in England, the United States, France, Germany, Denmark, and Ireland, that, by the substitution of orgapised distribution for unorganised distribution, by the substitution of co-operative buying for individual buying, of co-operative transportation and marketing for individual selling, and of co-operative use of power for the individual use of expensive machinery, the wants of both producer and consumer can be met more effectively, and at less cost. In this way it secures to the consumer a reduction in the cost of living and a greater command of, not only the necessaries, but the comforts and conveniences of life a most material consideration in this age of rising prices. And to the producer it secures a substantial increase in the amount of net profits available for distribution, or, in other words, an increase of that fund from which alone can be drawn those higher wages which we all desire to secure for the underpaid workers of the civilised world. Co-operation means the elimination of every unnecessary middleman. Every middleman not required by a wise and practicable system of co-operative organisation cannot be regarded in any other light than that of a parasite. The vital interests of society call for his removal, and co-operation shows how he can be removed. The principle of co-operation requires that the services of every necessary middleman shall be adequately and honourably remunerated, but it also requires that every unnecessary toll taken from an article on its way from the producer to consumer shall be removed." These words are worth pondering over. We may take it that all agree that plantation rubber would obtain better consideration if it were standardized—that is, if it were of even grade like Danish butter. Standardization can be effected in two ways—one by all plantations adopting a set system of preparation proved to give the best results after vulcanization; the other by planters ceasing to manufacture rubber and confining their operations solely to the coagulation of latex; the subsequent preparation to be carried out in a few large central factories. It is by the central factory system that the dairy industries of the Dominions have been built up and that Australia and New Zealand can now place butter and cheese of uniform quality on the London market. It could never have done this if each dairy farmer had insisted upon manufacturing his own produce. The frozen mutton industries of New Zealand and the Argentine have been developed on similar principles. We don't suggest that co-operation need stop at preparation but we certainly believe the industry would be lifted to an altogether different plane if co-operation were adopted even to this extent.—*The Weekly Times of Ceylon.*

Contact between Planter and Specialist.

(AGRICULTURAL NEWS, WEST INDIES).

Nobody at the present day can fail to appreciate the enormous gulf that divides the practical man or capitalist from the specialist in science. The separation of the two positions is very patent in modern agriculture, and can be vividly realized by contrasting the mental outlook of, say, the manager of a large sugar estate, and that of the entomologist whose faculties are concentrated on the wing markings of half a dozen species of insects. It is obvious that a proper relationship, or rather a proper communication or contact between the two is of the very greatest importance, and it is the object of this article to delineate the position of the specialist, and to point out the methods that are, or should be adopted, in order that his activities may be utilized to the best advantage.

In most of the progressive agricultural communities in the tropics will be found to exist departments (boards, or else entirely non-official agricultural organizations, which employ the services of scientific specialists—agricultural chemists, mycologists, entomologists and the like.) Strictly speaking—the matter will be enlarged upon later—these so-called specialists are not pure specialists, for in many cases they possess a good general knowledge of agriculture; yet in spite of this, their work is sufficiently restricted to narrow lines of investigation to render their mentalities quite different to those of practical planters. In order to contrast clearly the two types, it will be convenient to adopt a figurative illustration. The ability of the specialist may be considered as being represented by a long, narrow, verticle rectangle—his knowledge is deep rather than broad. That of the practical agriculturist can be symbolised in the shape of a square—his knowledge is of a normal nature and quite unspecialised. Clearly these two figures may be equal in area, but the essential feature of the conception is that the two figures are so dissimilar in shape that they cannot be made to fit when placed side by side. Occasionally, as already hinted, where the specialist has received a general training, and also in a case where the practical agriculturist has received a special training, the resulting figures have more in common, and may fit fairly well. This ideal condition is seldom found, however, and at present it is generally necessary in tropical communities to have an organization at the back of the specialists, of which the main function is to connect up the two dissimilar types just described.

It is evident that the knowledge of the specialist is a source which must be tapped. In spite of departments and other organisitions there is a strong tendency in the tropics to-day, for men who were originally specialists to have so acquainted themselves with the point of view and the requirements of the practical planter that they have become practitioners in the branch of science in which they are interested, and this is frequently followed by their becoming established in purely administrative positions where they direct the work, and disseminate the results to younger specialists who follow in their wake. The necessity for feeders of knowledge is greater than the necessity for producers of knowledge. This peculiar and most important trend is not altogether desirable, for it leads to the loss of research men just as they are in possession of valuable experience and in a position to tackle local problems deftly and with assurance. In fact, to-day we find the pure

specialist more or less confined to the great centres of learning in temperate countries. There is need for more of these men in the tropics; but, until tropical public opinion better appreciates the value of abstract research by learning how to tap it, there is little prospect of such a change being brought about. In medicine, to strike a parallel contrast, the value of the specialist is clearly understood. The significance of a serious affection of the eye or of the throat for instance, is at once appreciated, and information is obtained by intelligent people at the right time and from the right authority. On the other hand, of course an occasional ailment of these organs may be treated without the aid of skilled assistance. Judgment is exercised. In agriculture, a similar attitude is very uncommon. In agriculture the tendency is in the direction of *laisses faire*: unless the specialist rises from his microscope and searches for something to treat, results will be wasted. His mind, however, by interruption, is taken off his work, and the results have to suffer in any case.

The solution to these difficulties lies mainly in the fact that education and research should go hand in hand under proper conditions. At present there are too many isolated attempts at research in the tropics and not enough in the direction of broad education. The research man should be allowed to teach the young generation he will later advise

Agricultural education has from time to time been subjected to considerable ridicule by practical agriculturists, even by those who have received one. That is because it has not been correctly administered. Education in agricultural science should have for its main object the teaching of where, when and why to apply for advice, and not aim merely to instil isolated facts and operations or to train specialists. The student who intends to cultivate land should not, for instance, be taught how to analyze a soil, but rather under what conditions a soil should be analyzed and the usefulness of the results.

Consequent on such a widening of the practical man's square—to speak again figuratively—his contact with the specialist will be increased without interfering either with his own particular depth and kind of information or with that of the specialist. It is true that specialization might progress, under such conditions, more rapidly than the practical man could keep up with, in which case the class of scientific practitioner already referred to, would quickly evolve; but it would be from a different cause, a more desirable cause than that which necessitates the combination of agriculturist and scientific specialist in one, at the present day.

With the extended appreciation of scientific results by the agriculturist, the necessity for a large number of agricultural departments would tend to diminish. The State would be relieved of responsibility. Taxation would be less. The planter does himself what he paid others to do. Men of administrative ability would be required in the various communities to direct local co-operative movements it is true, but they would be entirely unofficial. *A priori*, one other thing would be necessary. Those who intended to undertake the cultivation of the land, who did so with the fixed intention of discreetly utilizing the knowledge of the specialist, would need to be catered for by the establishment of an inexpensive and easily accessible tropical agricultural university.—*The Hawaiian Forester and Agriculturist.*

How to take Samples and send Specimens for Examination.

Soils.

To obtain a fair average sample of the soil in a field for analysis, as *nearly as possible equal quantities of* soil are taken from not less than four different parts of it. At the places chosen for taking samples the surface is lightly scraped, to remove leaves mulch &c., a vertical hole 18 inches square is then dug to a depth of 2 feet, like a port hole. With a sharp spade a slice of soil to a depth of one foot is cut off one side of the hole and placed on a clean bag. Big stones and big roots should be removed, but not small stones the size of a pea, or fine roots.

The process is repeated at the other places selected, and all the samples are then thoroughly mixed, big lumps being broken up. After well mixing about 10 lbs is placed in a clean canvas bag, which is securely tied up. Such samples should be forwarded in a clean wooden box.

It is important that bags and boxes should be clean.

Care must be taken about the labels. Each sample should be labelled and a duplicate label put inside the bag. Full information should be sent about each sample, stating elevation, rainfall, depth of soil, nature of sub-soil, surrounding rocks and country, whether and is on a level or slope near a river, &c, and the history of the previous manurial treatment of the soil.

The same rules apply to taking samples of a sub-soil

Plant Diseases.

These should be packed so that, if possible, they will arrive in the same condition in which they were collected, and they *must not be externally wet* when they are put up. In some cases the specimens may be dried between sheets of blotting paper under light pressure before they are packed

Specimens which decay rapidly may be sent in a solution of Formalin, 1 part in 20 of water.

Insects.

If live insects are sent, some of their food plant which should be *dry* should be enclosed with them, and also a little crushed paper. Insects found in soil, wood, &c., should be sent in these materials

Tin boxes should be used for packing, and holes should not be bored in them, or if they are, only one or two and these quite small.

Insects should usually be sent dead. They may be killed in a cyanide bottle, or enclosed under a tumbler with a small piece of blotting paper soaked in benzene. They should be *quite dry* when packed, and are best buried in dry sawdust with a little powdered naphthaline

Small insects should be packed with finely shredded paper. *Cotton wool should never be used.*

Butterflies and moths should be enclosed in papers folded into triangular-shaped packets which are packed in a box with crushed paper to prevent shaking.

Scale insects should be packed *quite dry*, each specimen attached to its food plant simply wrapped in soft tissue paper.

General.

In all cases more than one specimen of each kind should be sent, if possible four or 5.

Every specimen should be clearly label'ed so that there can be no possible mistake. The label should bear a number referring to a description in the covering letter.

Full particulars about all specimens sent must be recorded.

All specimens should be sent to

THE SECRETARY,
The United Planters' Association of Southern India,
BANGALORE,

to ensure their being promptly attended to upon arrival.